

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 1999CH006	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/IB 00/00981	International filing date (day/month/year) 18/07/2000	(Earliest) Priority Date (day/month/year) 19/07/1999
Applicant CLARIANT FINANCE (BVI) LIMITED et al.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the title,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the abstract,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No.

☐ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

☐ None of the figures.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/IB 00/00981

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 D06P1/52 D06P1/00 D06M15/507

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 D06P D06M C10M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

WPI Data, PAJ, EPO-Internal, CHEM ABS Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 820 982 A (SALSMAN ROBERT KEITH) 13 October 1998 (1998-10-13) cited in the application column 6, line 14 - line 35 column 6, line 39 - column 7, line 4; claims ---	1-3, 7-10, 14, 15
X	WO 85 03959 A (BUCHANAN WILSON ROBERT) 12 September 1985 (1985-09-12) cited in the application the whole document ---	1, 4, 6-15
X	EP 0 506 613 A (CIBA GEIGY AG) 30 September 1992 (1992-09-30) cited in the application the whole document ---	1, 3, 7-10, 14
	-/--	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex

* Special categories of cited documents:

A document defining the general state of the art which is not considered to be of particular relevance

E earlier document but published on or after the international filing date

L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

Z document member of the same patent family

Date of the actual completion of the international search

25 September 2000

Date of mailing of the international search report

09/10/2000

Name and mailing address of the ISA

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Authorized officer

Blas, V

INTERNATIONAL SEARCH REPORT

International Application No

PCT/IB 00/00981

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 98 00449 A (EASTMAN CHEM CO) 8 January 1998 (1998-01-08) the whole document ----	1-16
A	EP 0 000 898 A (CASSELLA FARBWERKE MAINKUR AG) 7 March 1979 (1979-03-07) the whole document ----	1-16
A	EP 0 018 947 A (CIBA GEIGY AG) 12 November 1980 (1980-11-12) the whole document ----	1-16
A	DE 41 07 283 A (HENKEL KGAA) 10 September 1992 (1992-09-10) the whole document -----	1-3

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/IB 00/00981

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5820982 A	13-10-1998	AU 5365698 A BR 9713845 A CN 1245541 A EP 0991800 A NO 992663 A WO 9824953 A	29-06-1998 29-02-2000 23-02-2000 12-04-2000 02-08-1999 11-06-1998
WO 8503959 A	12-09-1985	AU 3993485 A BR 8505478 A DE 3590079 T EP 0174341 A ES 540751 D ES 8606437 A GB 2166459 A,B GB 2191217 A GB 2191224 A IT 1182712 B JP 61501577 T NL 8520041 T SE 8505008 A WO 8800607 A US 4608056 A US 4602916 A US 4722738 A	24-09-1985 18-02-1986 06-02-1986 19-03-1986 01-04-1986 01-10-1986 08-05-1986 09-12-1987 09-12-1987 05-10-1987 31-07-1986 02-01-1986 24-10-1985 28-01-1988 26-08-1986 29-07-1986 02-02-1988
EP 0506613 A	30-09-1992	AU 652616 B AU 1316192 A CA 2063770 A DE 59206084 D DK 506613 T ES 2086710 T JP 5105728 A MX 9201275 A US 5399616 A ZA 9202129 A	01-09-1994 01-10-1992 26-09-1992 30-05-1996 13-05-1996 01-07-1996 27-04-1993 01-10-1992 21-03-1995 25-11-1992
WO 9800449 A	08-01-1998	NONE	
EP 0000898 A	07-03-1979	DE 2737260 A DE 2861600 D IT 1118248 B JP 1383758 C JP 54042475 A JP 61051073 B	12-07-1979 11-03-1982 24-02-1986 09-06-1987 04-04-1979 07-11-1986
EP 0018947 A	12-11-1980	AU 541659 B AU 5802280 A DE 3066352 D JP 1232979 C JP 55152868 A JP 59005713 B US 4311480 A	17-01-1985 06-11-1980 08-03-1984 26-09-1984 28-11-1980 06-02-1984 19-01-1982
DE 4107283 A	10-09-1992	DE 59201342 D WO 9215749 A EP 0574441 A ES 2068029 T JP 6505062 T	16-03-1995 17-09-1992 22-12-1993 01-04-1995 09-06-1994

* information on patent family members

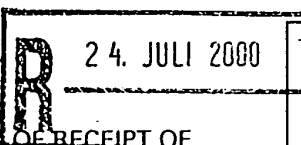
PCT/IB 00/00981

Form PCT/ISA/210 (patent family annex) (July 1992)

PATENT COOPERATION TREATY

CONFIRMATION COPY

PCT



To:

ACKNOWLEDGEMENT OF RECEIPT OF
DOCUMENTS FILED WITH THE
INTERNATIONAL BUREAU
AS RECEIVING OFFICE

D'HAEMER, Jan
C/o Clariant International Ltd
Rothausstrasse 61
CH-4132 Muttenz
SUISSE

Date of mailing
(day/month/year)

18 July 2000 (18.07.00)

Facsimile No.: 061 469 6588

Applicant's or agent's file reference

1999CH006

IMPORTANT COMMUNICATION

International application No.

PCT/IB00/00981

Date of receipt (day/month/year)

18 July 2000 (18.07.00)

Applicant

CLARIANT FINANCE (BVI) LIMITED et al

Title of the invention INCREASING THE WET SLIPPAGE PROPERTIES OF TEXTILE MATERIAL,
AND WET-ACTING LUBRICANTS FOR THIS PURPOSE

1. The International Bureau has received the documents/elements listed below on: 18 July 2000 (18.07.00)
by the following means: surface mail (registered)

- ☒ PCT Request (4 pages)
- ☒ description (excluding sequence listing part) (30 pages)
- ☒ claims (3 pages)
- ☒ abstract (1 page)
- ☐ drawings
- ☐ sequence listing part of description
- ☒ fee calculation sheet
- ☐ separate authorization to charge deposit account
- ☐ cheque
- ☐ cash (in person only)
- ☒ power(s) of attorney (copy of general power: 2; separate power: 1)
- ☐ statement(s) explaining lack of signature
- ☒ priority document (1)
- ☐ separate indications concerning deposited micro-organism or other biological material
- ☐ nucleotide and/or amino acid sequence listing on diskette
- ☐ statement(s) accompanying diskette(s) containing sequence listing
- ☒ accompanying letter (1)
- ☐ form PCT/RO/198 (RO/IB)
- ☒ PCT-EASY diskette
- ☐ other (specify):


The applicant's attention is drawn to the fact that these papers have not yet been checked by this receiving Office in respect of their compliance with the requirements of Article 11(1), that is, whether these papers meet the requirements necessary for the according of an international filing date. As soon as these papers have been checked, the applicant will be informed accordingly.

2. Additional observations (if necessary):

Name and mailing address of the receiving Office

International Bureau of WIPO
PCT Receiving Office Section
34, chemin des Colombettes, 1211 Geneva 20, Switzerland
Facsimile No. (41-22) 910 06 10 (Groups 3 and 4)

Authorized officer


Jean-Luc Baron
Telephone No. (41-22) 338 93 52

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 1999CH006	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/IB00/00981	International filing date (day/month/year) 18/07/2000	Priority date (day/month/year) 19/07/1999
International Patent Classification (IPC) or national classification and IPC D06P1/52		
Applicant CLARIANT FINANCE (BVI) LIMITED et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.


2. This REPORT consists of a total of 6 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 4 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☒ Certain observations on the international application

Date of submission of the demand 08/01/2001	Date of completion of this report 01.10.2001
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Koegler-Hoffmann, S Telephone No. +49 89 2399 8611



**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/IB00/00981

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, pages:

1,3-30 as originally filed

2 as received on 05/09/2001 with letter of 05/09/2001

Claims, No.:

1-17 as received on 05/09/2001 with letter of 05/09/2001

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/IB00/00981

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims 1-9,13-15,17
	No: Claims 10-12,16
Inventive step (IS)	Yes: Claims 1-9,13-15
	No: Claims 10-12, 16,17
Industrial applicability (IA)	Yes: Claims 1-17
	No: Claims

2. Citations and explanations
see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:
see separate sheet

Re Item V

Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

D1: US-A-5 820 982

D2: WO 85 03959 A

D3: US-A-4 483 969

D4: US-A-4 200 731

D5: US-A-6 129 909

D6: GB-A-2 304 727

1. D3 discloses the preparation and the use of emulsifiable polyester waxes which are linear polyester waxes which are end capped with polyfunctional organic anhydrides (D3: column 1, line 58 to column 2, line 24). Even though said polyesters are end-capped with polyfunctional organic anhydrides in order to provide sites for further reaction (column 2, lines 24 to 25) the polyester disclosed in D3 fall within the broad scope of the polyesters claimed in claims 10, 11, 12 and 16 of the current application.

D5 describes the preparation and use of end-capped polyester. Said polyesters are reaction products of naphthalene dicarboxylic acid and an alcohol or a polyglycol and are end-capped with an alcohol or an acid (D5: column 2, line 65 to column 4, line 18). It follows from the description of the current application (page 5, last paragraph) that the same compounds are used as used in D5. Thus, even though the products of D5 are not explicitly described as dispersible or colloidally soluble in water, said compounds fall within the scope of claim 10.

The subject matter of claims 10, 11, 12, 16 and 17 does not fulfil the requirements of Articles 33(2) and/or 33(3) PCT.

2. None of the available prior art documents suggests or gives a hint to the use of water-dispersible or -colloidally soluble, end-capped polyesters as wet-acting lubricant as claimed in claim 1 of the current application.

The problem underlying the current application is to provide improved wet - acting lubricants which reduce the tendency toward the formation or stabilisation and the marking of folds and reduce the substrate/substrate and substrate/metal friction.

Said problem is solved by the use of the end-capped polyesters (Ps) as claimed in claim 1.

The closest prior art documents are the documents D1 and D2. None of said cited documents suggests or gives a hint to said solution:

Document D1 describes the production of certain polyester resins from polyterephthalate, a sulphonyldicarboxylate with glycol and oxyalkylated polyol in the presence of acetate (see D1: column 5, lines 15 to 36; examples).

The compositions disclosed in D1 are used as sizing materials in textile treating processes (column 5, line 37 to column 6, line 35) and in dyeing processes.

Contrary to the current application D1 does not describe end-capped polyesters.

Document D2 relates to compositions as additives for water-based systems useful for lubrication textile fibres. Said compositions comprises higher alkyl esters of benzene-mono-to hexa-carboxylic acid. Even though D2 designates said compounds as "polyester", said compounds are no polymers and do not correspond to the conventional definition of the technical term "polyester".

In view of said documents independent claims 1, 13 and 14 appear to meet Article 33(2) and 33(3) PCT.

The subject matter of claims 1, 13 and 14 is industrially applicable and therefore also meets the requirements of Article 33(4) PCT.

Dependent claims 2 to 9 and 15 are preferred embodiments of the subject matter of claims 1 and 14 and therefore also meet Articles 33(2) and 33(3) PCT.

Re Item VIII

Certain observations on the international application

Although claims 11 and 16 have been drafted as separate independent claims, they appear to relate effectively to the same subject-matter and to differ from

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/IB00/00981

each other only with regard to the definition of the subject-matter for which protection is sought. The aforementioned claims therefore lack conciseness. Moreover, lack of clarity of the claims as a whole arises, since there is no difference between the subject matter of the two claims.

Hence, claims 11 and 16 do not meet the requirements of Article 6 PCT.

Moreover, the composition called for in claim 11 is defined in one of claims 4 to 6. Claim 6 refers to the use of a composition comprising water and at least one of the additives (G), (X), (Y) and (Z). In other words, said claims include already the definition "essentially consisting of". Thus, there is no difference between the composition claimed in claim 11 and the composition claimed in claims 12 and 16 (Article 6 PCT).

particularly high shear forces while developing their action as well as possible for short liquors too. The shorter the liquor, the greater the requisite efficacy of the respective treatment agents since wet slippage of the goods and the achievement of a level, smooth goods appearance without damage to the goods is made more difficult the greater the proportion of liquor taken up by the goods.

It has now been found that certain end-capped polyesters having a certain hydrophilicity, as is sufficient for the polyester to be dispersible or colloiddally soluble in water, in particular self-dispersible or colloiddally soluble, particularly also end-capped polyesters as otherwise used as soil release agents, surprisingly have an advantageous action as wet-acting lubricants (i.e. as wet-acting slip agents) in the treatment of textile piece goods in rope form or tubular form, particularly made from polyester fibres, in jet dyeing machines, where, for example, they do not hinder or impair the dyeing, but act surprisingly well and extremely superficially on the wet substrate as wet-acting lubricants in surprisingly high efficiency and yield, and further with a high degree of constancy and reproducibility of these properties, even if the products employed come from different lots and/or have been stored for a prolonged time.

The invention relates to the use of such polyesters (P_S) as defined below, as wet-acting lubricants for the treatment of textile material in the form of textile piece goods, particularly in rope form or tubular form, to the corresponding wet-acting lubricants, and to their production and aqueous compositions (W) thereof.

A first subject-matter of the invention is thus the use of

(P_S) water-dispersible or -colloiddally soluble, end-capped polyesters

as wet-acting lubricants in the treatment of textile piece goods with a textile treatment agent (T) by an exhaust process from aqueous liquor under conditions which would otherwise in the textile substrate favour the formation of transport folds and/or the occurrence of friction in or on the substrate,

or respectively is

a process for the treatment of textile piece goods with a textile treatment agent (T) by exhaust methods from aqueous liquor under conditions which would otherwise in the textile substrate favour the formation of transport folds and/or the occurrence of friction in or on the substrate, characterized in that the process is carried out in the presence of a water-dispersible or -colloiddally soluble end-capped polyester (P_S) as a wet-acting lubricant.

CLAIMS

1. Use of

(P_S) water-dispersible or -colloidally soluble, end-capped polyesters

as wet-acting lubricants in the treatment of textile piece goods with a textile treatment agent (T) by an exhaust process from aqueous liquor under conditions which would otherwise in the textile substrate favour the formation of transport folds and/or the occurrence of friction in or on the substrate.

2. Use according to claim 1, characterised in that (P_S) is a polyester made from difunctional compounds (D), and monofunctional compounds (E) which are suitable for the end capping of the polyesters, and optionally higher oligo-functional compounds (H) which are suitable for the branching of the polyesters.
3. Use according to Claim 1 or 2, characterised in that (P_S) is a polyester (P_S') which is self-dispersible or colloidally soluble in water.
4. Use according to one of Claims 1 to 3, characterised in that (P_S) is employed in the form of an aqueous, concentrated composition (W).
5. Use according to Claim 4 characterised in that (W) is an aqueous composition which is characterised by a content of (P_S) and

(G) a thickening agent.

6. Use according to Claim 4 or 5, characterised in that (W), in addition to (P_S) and optionally (G), contains at least one of the following components

(X) a non-ionogenic or anionic emulsifier or a mixture of non-ionogenic and/or anionic emulsifiers,

(Y) an agent for adjusting the pH

and (Z) at least one formulation additive.

7. Use according to one of Claims 1 to 6, characterised in that (T) is at least one dye or at least one optical brightener.
8. Use according to one of Claims 1 to 7, in the dyeing or optical brightening of textile material made from polyester fibres, optionally blended with other fibres, in jet dyeing machines.
9. Use according to one of Claims 1 to 8, in the dyeing or optical brightening of textile material made from polyester microfibrres, optionally blended with other fibres of comparable fineness
10. Wet-acting lubricant for the dyeing or optical brightening of textile piece goods in rope or tubular form by an exhaust method from aqueous liquor under conditions which would otherwise in the textile substrate favour the formation of transport folds or the occurrence of friction in or on the substrate, characterised by a content of (P_S) as defined in one of Claims 1 to 3.
11. Aqueous wet-acting lubricant composition which is an aqueous composition (W) which is defined as in one of Claims 4 to 6.
12. Aqueous wet-acting lubricant composition (W) according to Claim 11, essentially consisting of (P_S) and water and at least one of the additives (G), (X), (Y) and (Z).
13. Process for the production of an aqueous, (G) or/and (X) containing composition (W) according to Claim 12, wherein a melt of (P_S) is mixed in the presence of water with (G) or/and (X) and optionally one or more of (Y) and (Z) is added.
14. Process for the treatment of textile piece goods with a textile treatment agent (T) by exhaust methods from aqueous liquor, under conditions which would otherwise in the textile substrate favour the formation of transport folds or the occurrence of friction in or on the substrate, characterised in that the process is carried out in the presence of a water-dispersible or -colloidally soluble, end-capped polyester (P_S) as defined in one of Claims 1 to 3, optionally in the form of an aqueous composition (W) as defined in any one of Claims 4 to 6, as a wet-acting lubricant.
15. Process according to Claim 14, wherein (P_S) is removed at the end of the treatment process.

16. Aqueous polyester composition (W'), essentially consisting of (P_S), (G) and water and optionally at least one of the additives (X), (Y) and (Z), in which (P_S) is as defined in any one of Claims 1 to 3, (G) is as defined in Claim 5, and (X), (Y) and (Z) are as defined in Claim 6.
17. Aqueous polyester composition (W'') according to Claim 16, essentially consisting of (P_S'), (G) and water and additionally optionally one or more of the additives (Y) and/or (Z), in the form of an aqueous dispersion or colloidal solution.